

## ANTIPLATELET DRUG COMPARISON CHART

Drug	ASA	Clopidogrel (Plavix®)	Prasugrel (Effient®)	Ticagrelor (Brilinta®)
<b>Indications</b>	- 1° and 2° prevention of stroke and MI - ACS - PCI with stent - PVD	- ASA intolerance or failure - 1° and 2° prevention of stroke and MI (+/- ASA) - ACS (+ ASA) - PCI (+ ASA) - PVD	- With ASA, for treatment of ACS in patients treated with PCI <b>Contraindicated if:</b> age > 75 years; <b>OR</b> wt < 60 kg; <b>OR</b> history of stroke <b>NON-FORMULARY</b>	- With ASA, for treatment of ACS See BCHA restrictions below <sup>1</sup>
<b>Dose and Duration</b>	Load: 160-325 mg Maintenance: 80 or 81 mg daily  Duration: Indefinite	Load: 300-600 mg Maintenance: 75 mg daily  Duration: ACS: up to 1 year BMS: minimum 30 days DES: minimum 1 year	Load: 60 mg Maintenance: 10 mg daily  Duration: up to 1 year	Load: 180 mg Maintenance: 90 mg BID daily  Duration: up to 1 year
<b>Class</b>	Non-Steroidal Anti-Inflammatory Agent	Second generation thienopyridine (Prodrug)	Third-generation thienopyridine (Prodrug)	Cyto-pentyl-triazolo-pyrimidine
<b>Mechanism of Platelet Inhibition</b>	Irreversible inhibitor of COX-1 causing decrease in thromboxane A <sub>2</sub>	Irreversible inhibitor of P2Y <sub>12</sub> component of ADP receptor (preventing ADP binding and activation of platelets)	Irreversible inhibitor of P2Y <sub>12</sub> component of ADP receptor (preventing ADP binding and activation of platelets)	Reversibly modifies P2Y <sub>12</sub> component of ADP receptor (preventing ADP binding and activation of platelets)
<b>Oral Bioavailability</b>	50-75%	> 50% (active metabolite)	> 78% (active metabolite)	30-42%
<b>Peak Effect</b>	1-3 hours	6 hours (after load)	4 hours (after load)	2 hours (after load)
<b>Half-life (active metabolite)</b>	3 hrs (salicylate)	0.5 hrs	7 hrs (range 2-15 hrs)	9 hrs (range 6.7-9.1 hrs )
<b>Elimination</b>	Hydrolyzed by esterases; Hepatic conjugation	Esterases; Metabolism by CYP-450 enzymes	Esterases; Metabolism by CYP-450 enzymes	Metabolism by CYP-450 enzymes
<b>CYP Metabolism</b>	No	CYP2C19	CYP3A4, CYP2B6	CYP3A4/5
<b>When to Hold Dose Prior to Surgery</b>	7 days (optional)	5-7 days	7 days	5 days
<sup>1</sup> Ticagrelor restricted to patients on prior to admission <b>or</b> those on ASA with ACS i.e. STEMI, non-STEMI, unstable angina (UA) <b>AND one of the following:</b> Failure on optimal doses of clopidogrel and ASA therapy <b>or</b> recurrent ACS after revascularization with PCI; <b>OR</b> STEMI <b>and</b> undergoing revascularization via PCI; <b>OR</b> Non-STEMI or UA <b>and</b> high risk angiographic anatomy <b>and</b> undergoing revascularization via PCI				
<b>Abbreviations:</b> ACS = Acute Coronary Syndrome; PCI = Percutaneous Coronary Intervention; PVD = Peripheral Vascular Disease; BMS = Bare Metal stent; DES = Drug-Eluting Stent; ADP = Adenosine Diphosphate				